Project: 2011 Annual Groundwater Monitoring Event – Ashland Aqualon Functional Ingredients, 1111 Hercules Road, Hopewell, Virginia
Laboratory: Test America, Savannah, Georgia
Sample Delivery Group: HAQ034
Fraction: Inorganic
Matrix: Aqueous
Report Date: 7/13/2011

This analytical quality assurance report is based upon a review of analytical data generated for groundwater samples. The sample locations, laboratory identification numbers, sample collection dates, sample matrix, and analyses performed are presented in Table 1.

The sample analyses were performed in accordance with the procedures outlined in "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, IVA, and IVB, January 2008, and "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983.

All sample analyses have undergone an analytical quality assurance review to ensure adherence to the required protocols. Results have been validated or qualified according to general guidance provided in the Region III modifications to "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 10/2004. This document specifies procedures for validating data generated for CLP analyses. Therefore, the quality control requirements specified in the methods and associated acceptance criteria were also used to evaluate the non-CLP data. The parameters presented on the following page were evaluated.

- X • Data Completeness
- X • Chain of Custody Documentation
- X • Holding Times
- X • Initial and Continuing Calibrations
- X • ICP Interference Check Sample Results
- X • Laboratory and Field Blank Analysis Results
- • Matrix Spike Recoveries and Reproducibility

	• Laboratory Duplicate Analysis Results
	• ICP Serial Dilution Results
	• Field Duplicate Analysis Results
X	• Laboratory Control Sample Results
	• GFAA Post-Digestion Spike Recovery/Duplicate Burn Precision
X	• Qualitative Identification
X	• Quantitation/Reporting Limits

X - Denotes parameter evaluated.

It is recommended that the data only be used according to the qualifiers presented, and discussed in this report. All other data should be considered qualitatively and quantitatively valid as reported by the laboratory, based on the items evaluated.

Report Approved By:

Shawne M. Rodgers
President

7/13/07
Date

1.0 *DATA COMPLETENESS*

The data package was complete.

2.0 *CHAIN OF CUSTODY DOCUMENTATION*

All chain of custody documentation was complete.

3.0 *HOLDING TIMES*

All nitrate and nitrite results should be considered biased low quantitative estimates, and may be higher than reported. The laboratory analyzed these samples outside of the 48-hour holding time specified by 40 CFR. Because the samples were analyzed outside of the holding time biological or chemical degradation may have occurred. Positive results have been marked with "L" qualifiers to indicate that they are estimates. Reporting limits (RLs) are marked "UL".

4.0 *INITIAL AND CONTINUING CALIBRATIONS*

All criteria were met. No qualifiers were applied.

5.0 *ICP INTERFERENCE CHECK SAMPLE RESULTS*

All criteria were met. No qualifiers were applied.

6.0 *LABORATORY AND FIELD BLANK ANALYSIS RESULTS*

The inorganic analytes presented in Table 2 were detected in associated laboratory method blanks at concentrations greater than their respective RL.

Positive results reported for zinc for samples MW-8D, MW-8U, MW-6, MW-3, SDB-MW-2, and SDB-MW-3 are qualitatively invalid due to their presence in the associated laboratory method blanks. USEPA Region III protocol requires positive results for inorganic contaminants, that are less than or equal to five times the blank contamination level, to be considered qualitatively invalid. Placing "B" qualifiers next to the quantitative results for this metal for the samples has indicated this.

7.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES AND REPRODUCIBILITY

The laboratory did not select a site sample to perform matrix spike/ matrix spike duplicate analyses. Therefore, the associated sample data could not be evaluated based on these parameters. This should be noted when assessing the sample data.

8.0 LABORATORY DUPLICATE RESULTS

The laboratory did not select a site sample to perform laboratory duplicate analyses. Therefore, the associated sample data could not be evaluated based on this parameter. This should be noted when assessing the sample data.

9.0 ICP SERIAL DILUTION RESULTS

The laboratory did not select a site sample to perform ICP serial dilution analyses. Therefore, the associated sample data could not be evaluated based on this parameter. This should be noted when assessing the sample data.

10.0 FIELD DUPLICATE RESULTS

There were no field duplicate samples submitted with this SDG.

11.0 LABORATORY CONTROL SAMPLE RESULTS

All criteria were met. No qualifiers were applied.

12.0 GFAA POST-DIGESTION SPIKE/DUPLICATE BURN

This parameter is not applicable to the analyses performed.

13.0 QUALITATIVE IDENTIFICATION

All criteria were met. No qualifiers were applied.

14.0 QUANTITATION/REPORTING LIMITS

As required by USEPA protocol, all inorganic analytes which were qualitatively identified at concentrations between their respective RLs and their method detection limits, have been marked with "J" qualifiers to indicate that they are quantitative estimates.

Analysis	Reference
Appendix IX Metals	Method 6020, "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, IVA, and IVB, January 2008
Total Organic Carbon	Method 9060, "Test Methods for Evaluating Solid Wastes", SW-846, third edition, Promulgated Updates II, IIA, and III, IVA, and IVB, January 2008
Chloride	Method 325.2"Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Nitrate-Nitrite	Method 353.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Nitrite	Method 353.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Total Kjeldahl Nitrogen	Method 351.2, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions
Sulfate	Method 375.4, "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions

Table 1 Samples For Data Validation Review
Facility Lead Corrective Action Phase III Investigation - Hercules Aqualon, Hopewell, Virginia
Test America Sample Delivery Group HAQ034

SAMPLE I.D.	LABORATORY I.D	DATE COLLECTED	MATRIX	ANALYSES PERFORMED								
				VOC	SVOC	ALC	MET	CHL	NO2	NO3	TKN	TOC
MW-8D	680-67790-7	4/26/2011	Groundwater	X	X	X	X	X	X	X	X	X
MW-8U	680-67790-8	4/26/2011	Groundwater	X	X	X	X	X	X	X	X	X
MW-6	680-67790-9	4/26/2011	Groundwater	X	X	X	X	X	X	X	X	X
MW-3	680-67790-10	4/26/2011	Groundwater	X	X	X	X	X	X	X	X	X
SDB-MW-1	680-67790-11	4/26/2011	Groundwater	X		X	X	X	X	X	X	X
SDB-MW-2	680-67790-12	4/26/2011	Groundwater	X		X	X	X	X	X	X	X
SDB-MW-3	680-67790-13	4/26/2011	Groundwater	X		X	X	X	X	X	X	X
Trip Blank 1	680-67790-14	4/26/2011	Trip Blank	X								

Table 2 **Blank Results for Inorganic Analyses**

BLANK	ANALYTE	CONCENTRATION /UNITS	ASSOC. SAMPLES
MB 680-201734/1-A Analysis Batch: 680-201938	Iron	59.5 J µg/L	MW-8D, MW-8U, MW-6, MW-3, SDB-MW-1, SDB-MW-2, SDB-MW-3
MB 680-201734/1-A Analysis Batch: 680-201977	Zinc	10.9 J µg/L	MW-8D, MW-8U, MW-6, MW-3, SDB-MW-1, SDB-MW-2, SDB-MW-3
CCB 680-202657/1	Chloride	0.258 J mg/L	SDB-MW-1, MW-8D
CCB 680-202657/10	Chloride	0.243 J mg/L	SDB-MW-1, MW-8D
CCB 680-202912/25	Total Organic Carbon	0.571 J mg/L	MW-8D, MW-8U, MW-6, MW-3, SDB-MW-1, SDB-MW-2, SDB-MW-3